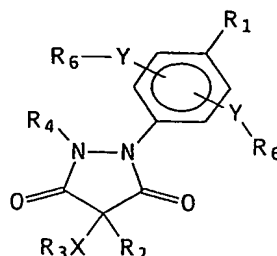


## Claims:

1) An optionally substituted compound of the formula I or a salt thereof;



(I)

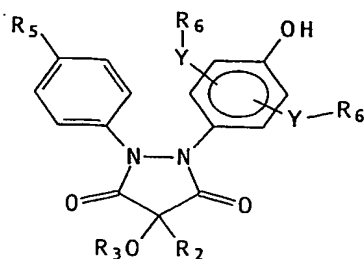
wherein  $R_1$  is O or S,  $R_2$  is hydrogen or more preferably an  $C_1$ - $C_{10}$  organic group attached by a carbon atom, X is H, O, OO, S or SS  $R_3$  is absent where  $X=H$ , is hydrogen or is a hydroxyl or thiol protecting group,  $R_4$  is a hetero- or preferably homo-cyclic aryl group, optionally substituted with a further group  $R_5$ , one Y group is S and the other is either H (in which case only one  $R_6$  group is present) or S; and  $R_6$  is, independently, an organic group of molecular weight up to around 500 amu.

2) A compound as claimed in claim 1 wherein  $R_2$  is an optionally substituted alkyl, alkenyl, alkynyl, alkaryl, aralkyl, arylsulphonylalkyl or aralkenyl group,  $R_3$  is hydrogen or a  $C_2$ - $C_7$ , acyl, or alkaryl group,  $R_5$  is an alkyl, alkenyl, alkynyl, OH, O-alkyl, thio, thioalkyl, halo, or primary, secondary, tertiary or quaternary amino group and  $R_6$  is a substituted or unsubstituted alkyl, alkenyl, alkynyl, alkaryl, aralkyl, alkyl ester, alkyl amide, alkyl acid, polyol, sugar, oligo(alkylamide), oligo(alkylester), or oligopeptide group.

3) A compound as claimed in claim 1 or claim 2 of formula III;

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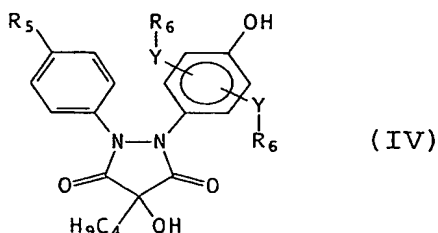


(III)

10 wherein Y, R<sub>2</sub> and R<sub>3</sub> are as described in claim 1 or claim 2 and R<sub>5</sub> is hydrogen or an alkyl, alkenyl group, OH, O-alkyl, O-acyl, SH, S-alkyl, S-acyl, halo, or amino group.

15 4) A compound as claimed in any of claims 1 to 3 of formula IV, or a salt thereof;

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(IV)

25 wherein R<sub>5</sub> is hydrogen or OH and each R<sub>6</sub> is, independently, a cysteine or a glutathione moiety attached via the sulphur atom thereof.

30 5) A compound as claimed in any of claims 1 to 4 wherein both Y-R<sub>6</sub> groups are S-R<sub>6</sub>.

6) A compound of any of claims 1 to 5 wherein the two Y groups are ortho to group R<sub>1</sub>.

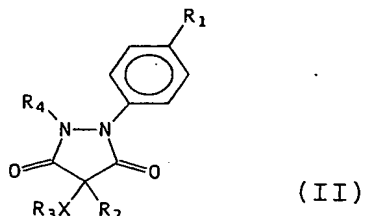
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7) A compound of any of claims 1 to 5 wherein one Y group is ortho to group R<sub>1</sub> and one Y group is meta to

group  $R_1$ .

8) A compound formed by reaction of a thiol ( $R_6$ -SH) with a starting material of formula II

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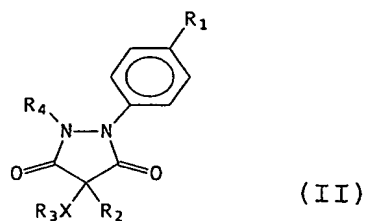
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Wherein  $R_1$ ,  $R_2$ ,  $R_3$ ,  $R_4$ ,  $R_6$  and X are as defined in any of claims 1 to 4, or protected derivatives or precursors thereof.

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9) A method for the synthesis of a compound of any of claims 1 to 7, said method comprising reaction of a thiol ( $R_6$ -SH) with a starting material of formula II

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Wherein  $R_1$ ,  $R_2$ ,  $R_3$ ,  $R_4$ ,  $R_6$  and X are as defined in any of claims 1 to 4, or protected derivatives or precursors thereof.

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10) A method of treatment of a mammalian subject comprising administering a compound as claimed in any of claims 1 to 8.

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11) A method for the for treatment, prevention or control of a viral, autoimmune, neoplastic, inflammatory

and/or allergic condition, said method comprising administration of a compound as claimed in any of claims 1 to 8.

- 5      12)    A method of tonic treatment of an aging mammalian subject, or a subject suffering from the aftereffects of infection, disease or treatment, said method comprising administration of a compound as claimed in any of claims 1 to 8.

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13)    A compound as claimed in any of claims 1 to 8 for use in therapy.

- 14)    The use of a compound as claimed in any of claims 1 to 8 in the manufacture of a medicament for use in a method as claimed in any of claims 10 to 12.

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- 15)    A pharmaceutical composition comprising a compound as claimed in any of claims 1 to 8 and at least one pharmaceutically acceptable excipient, carrier or diluent.

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- 16)    A functional or fortified food comprising a compound as claimed in any of claims 1 to 8 formulated in an edible food or potable beverage product.

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